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# Foot-and-Mouth Disease

A Foreign Threat To U.S. Livestock

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# **Foot-And-Mouth Disease: A Foreign Threat To U.S. Livestock**

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Foot-and-mouth disease is a severe, highly communicable viral disease of cattle and swine. It also affects sheep, goats, deer, and other ruminants.

This country has been free of foot-and-mouth disease since 1929, when the last of nine outbreaks in the United States was eradicated.

The disease is characterized by fever and by blisterlike lesions on the tongue and lips, in the mouth, on the teats, and between the toes. Many affected animals recover, but the disease leaves them debilitated, and it causes tremendous losses in the production of meat and milk.

Because it spreads widely and rapidly and because it has grave economic as well as physical effects, foot-and-mouth disease is one of the most dreaded diseases of animals.

## **Cause:**

The disease is caused by one of the smallest disease-producing viruses known. The virus has a remarkable capacity for remaining viable in carcasses, in animal byproducts, in such materials as straw and bedding, and even in pastures.

There are at least seven separate types and many subtypes of foot-and-mouth disease virus. Animals may be affected by one or more types or subtypes of virus at the same time. Recovered animals may have repeated attacks of the disease, because immunity to one type does not protect an animal against the others.

## **Spread:**

Foot-and-mouth disease can be spread by animals, persons, or materials that bring the virus in contact with susceptible animals. Outbreaks may occur after:

- Contact between infected or carrier animals and susceptible animals. The disease frequently is spread by the introduction of infected or carrier animals into noninfected herds.
- Susceptible animals are held in contaminated facilities.
- Transportation of susceptible animals in contaminated vehicles.
- Contact between susceptible animals and infected meat or other animal products fed in raw or improperly cooked garbage.
- Contact between susceptible animals and infectious materials—such as contaminated hay or other feedstuffs, hides containing the virus, or veterinary biologics contaminated with the virus.
- Susceptible animals drink contaminated water.



Drooling and smacking of the lips are early signs of FMD.



Unruptured vesicle (blister) on the gum.



Ruptured gum vesicle.



Ruptured gum vesicles which have begun to heal.



Tongue vesicles which have ruptured and have begun to slough.

- Workers carry the virus to susceptible animals on clothing, footwear, or farm equipment.
- Semen from an infected bull is inseminated into susceptible cows.

### **Signs:**

Vesicles (blisters) in the mouth or on the feet and the resulting slobbering or lameness are the best-known signs of the disease. Blisters may not be observed until they have ruptured.

Some of these other signs may appear in affected animals during a foot-and-mouth outbreak:

- Temperatures rise markedly—especially in young animals—then usually fall in about 48 hours.
- Rupturing vesicles discharge either clear or cloudy fluid, and leave raw, eroded areas surrounded by ragged fragments of loose tissue.
- Animals slobber sticky, foamy, stringy saliva.
- Animals stop eating because of painful tongue and mouth lesions.
- Animals go lame and often refuse to move.
- Pregnant animals often abort. Milk flow of infected cows drops abruptly.

The disease reduces productivity in infected animals. Meat animals do not normally regain lost flesh for many months. Recovered cows seldom return to their earlier rates of milk production. Death losses from foot-and-mouth disease are variable.

### **Similar Diseases:**

Foot-and-mouth disease may be confused with several similar, but less harmful, domestic diseases such as vesicular stomatitis, bovine virus diarrhea, and foot rot. Whenever blisters or other typical signs are observed and reported, tests must be made to determine whether the disease is foot-and-mouth disease.

### **Distribution:**

Foot-and-mouth disease is widespread. Various types of the virus have been identified in Africa, South America, Asia, and Europe.

North America, Central America, Panama, Australia, New Zealand, Japan, and certain countries in Europe are considered free of foot-and-mouth disease.

### **If The Disease Does Occur:**

Foot-and-mouth disease is one of the most difficult animal infections to control. Because the disease occurs in so many parts of the world, there is always a chance of its accidental introduction into the United States.

Animals in this country are highly susceptible to foot-and-mouth disease. If an outbreak were to occur

in the United States, this disease—which affects cattle, swine, sheep, goats, and deer—could be spread rapidly to all sections of the country by normal livestock movements unless detected early and immediately stamped out. If foot-and-mouth disease were to spread unchecked, the economic impact could reach billions of dollars in the first year.

## **How The United States Protects Its Animals:**

Protecting the Nation's livestock from devastating foreign animal diseases is a 24-hour-a-day, 365-day-a-year job. In carrying out this job, the U.S. Department of Agriculture has found:

- It is more effective and much cheaper to keep diseases out of this country than it is to fight an outbreak inside the United States.
- It is more effective and much cheaper to eradicate a disease outbreak in the United States than it is to "live with" the disease.

Federal law prohibits the importation of live animals and fresh meat from countries where foot-and-mouth disease exists. USDA continuously reviews foot-and-mouth disease outbreaks throughout the world, and keeps out live animals and fresh meat from infected countries. Other regulations control the importation of animal byproducts as necessary to prevent the introduction of foot-and-mouth disease.

## **What You Can Do:**

You can back up the Nation's efforts against foot-and-mouth disease by—

- Watching for slobbering, lameness, and other signs of foot-and-mouth disease in your herd.
- Report immediately any unusual or suspicious signs of disease to your veterinarian, to State or Federal animal disease control officials, or to your county agricultural agent.

If foot-and-mouth disease should appear in your animals, your report will set in motion an effective eradication program.

Your part is vital. Both the early recognition of disease signs and the prompt notification of officials are essential if eradication is to be carried out successfully. Your warning may prevent the disease from becoming established in the United States, or—if the disease does spread—reduce the time and money needed to wipe it out.



Newly formed vesicle on hog's snout (small white area).



Ruptured vesicle on pig's snout.



Ruptured vesicles around the rim of a pig's hoof.



Sloughing skin suspended from center teat of cow.



Ruptured vesicles and scabs on teat of cow.

Veterinary Services  
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